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Hazardous Waste Management System: General Standards Applicable to Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities; and Hazardous Waste Permit Program

(U.S.) Environmental Protection Agency
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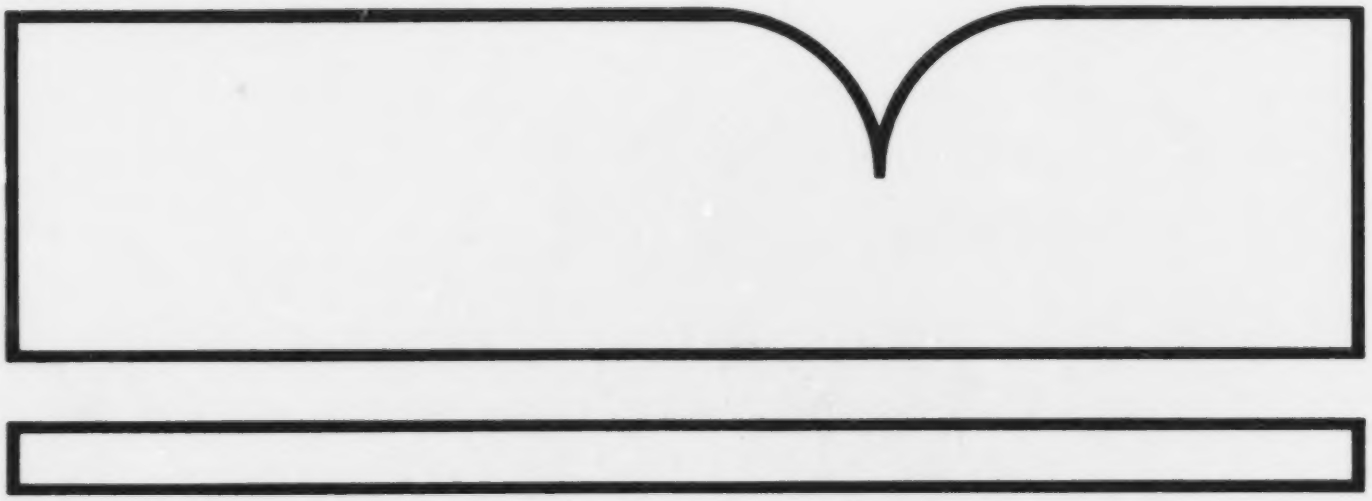

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BACKGROUND DOCUMENT NO. 5

HAZARDOUS WASTE MANAGEMENT SYSTEM: GENERAL;
STANDARDS APPLICABLE TO OWNERS AND OPERATORS
OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL
FACILITIES; AND HAZARDOUS WASTE PERMIT PROGRAM
(40 CFR 260, 264, and 122)

Permitting of Land Disposal Facilities: Underground Injection and Underground Seepage

This document (ms. 1941.38) provides background information on EPA's proposed regulations for land disposal of hazardous waste

U.S. ENVIRONMENTAL PROTECTION AGENCY
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Permitting of Land Disposal Facilities

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INTRODUCTION

Underground injection and underground seepage are two types of land disposal facilities for which specific general standards have not previously been proposed under §3004 of the RCRA. It had been intended, as is apparent from §122.26 which these regulations propose to amend, that hazardous waste injection be administered under the Underground Injection Control (UIC) program established under the authority of the Safe Drinking Water Act (SDWA). Comment was received questioning this intention and the equivalence of the standards of compliance of the SDWA and the RCRA. Furthur related issues arose when the UIC proposal to ban all shallow injections of hazardous waste, except those which would only effect an "exempted aquifer", was administratively rejected; and it was recognized that no provision existed within the UIC Program or the SDWA for interim status for existing hazardous waste underground injection facilities. This resulted in requirements for interim status being proposed for injection wells as Subpart R of Part 265 at 45 FR 33280 on 19 May 1980. The issues were discussed in the preamble to that promulgation of proposed regulations and in the preamble to the final regulations for Part 122 at 45 FR 42472.

The term "injection well", as used in the UIC Program, is a term of art. It includes any facility used for the emplacement of fluids into the land if the depth of the facility is greater than the largest surface dimension. This term is interpreted to include facility types described as seepage facilities in §264.19 if the dimensional condition of the term is met. It is specifically intended to include covered seepage facilities with an inlet pipe

since the diameter of the pipe is interpreted to represent the largest surface dimension of the facility. Such seepage facilities are generally considered to be among those "wells" which are Class IV wells (not a literally correct generalization based on the definition in §122.32). Standards for Class IV wells were reserved at 45 FR 42511 when the UIC regulations under Part 146 were promulgated on 24 June 1980.

Seepage facilities which do not meet the dimensional criteria of an "injection well" are often referred to as "pits, ponds, and lagoons" and are within definition of "surface impoundments" applicable to Part 265 of the the RCRA. Certain of these terms and definitions are not consistant with the general use of the language, and are confusing. In order to achieve a more logical distinction amoung the various types of facilities (which would be generally understood), the term "seepage facilities" has been used in these regulations to describe facilities designed with the objective of emplacing liquids into or above the surficial (uppermost) aquifer. The term "underground injection facilities" has been limited in these regulations to those facilities which are designed with the objective of injecting (under pressure) liquids beneath the surficial aquifer. Therefore, a seepage facility may be an "injection well" or a "surface impoundment" as those terms are defined or used in Parts 122, 146, 260, and 265; whereas an "underground injection facility" may only be an "injection well" which is cased to prevent discharge into the surficial (uppermost) aquifer. The use of these and other terms is furthur described in preamble discussion of "Types of facilities - §264.19(a)" at 46 FR 11136-38.

I. NEED FOR REGULATION

Based on the above discussion, it should be clear that the need for regulation of "underground injection facilities" and "seepage facilities" has been addressed in other documents and need only be referenced here. Reference can be made to the Underground Injection Control Regulation Docket for specific demonstration of the need for regulation of those facilities which, due to dimensional definition, were addressed as "injection wells". The Statement of Basis and Purpose dated May, 1980 sets forth the reasoning of the Agency and includes the citation of pertinent references. Reference can be made to "Background Document No. 1 - Surface Impoundments" of this series for specific demonstration of the need for regulation of surface impoundments which are designed with the objective of emplacing liquids into the land.

II. ANALYSIS OF STANDARDS

1. Purpose, scope and applicability - §264.1

A. Proposed Regulations and Rationale

See the final regulation - §264.1(g) at 45 FR 33221

B. Summary of Comments

One commenter on the Agency's proposal to administer the well injection of hazardous waste under the UIC program objected strongly arguing that; (1) The language of Section 3005(a) of RCRA does not allow the disposal of hazardous waste in any facility that in not permitted under RCRA; and (2) the disposal of hazardous waste should be regulated under RCRA because that Act provides a greater level of protection to the environment.

C. Discussion

The Agency discussed that comment in the Preamble to the final regulations for Part 146 at 45 FR 42278. It rejected the substance of the second part of the arguement asserting that the major concern from the injection of fluids is the potential danger to underground sources of drinking water. It should be noted that the term "underground sources of drinking water" is also a term of art as used in conjunction with the SDWA. It is defined in a manner which would include within the meaning of the term essenially all surficial aquifers whether or not they are or could potentially be used to supply water for drinking use.

The Agency has reconsidered its own position that the concern over the injection of fluids is limited to drinking water source protection recognizing that the position it had taken is more valid for deep well injection than for shallow well "injection" (i.e., seepage into the surficial or uppermost aquifer). It has therefore proposed to amend the permit by rule for injection wells in §122.26(b) to limit the exclusive jurisdiction to administer hazardous waste "well injection" under the UIC program. The amendment to §264.1(d) is the simple insertion of the phrase "and a permit by rule under §122.26(b) of this Chapter" which limits the exclusive jurisdiction of the UIC program to the scope of the amended permit by rule.

Therefore, the proposed amendment conforms the applicability of the regulations to exclude only those "injection wells" which, by definition, can fully comply with the criteria and standards for hazardous waste land disposal facilities. Because of the

Agency's decision to propose the Non-numerical health and environmental standard, it can not continue the complete delegation of the authority to permit land disposal by well injection to the jurisdiction of the Underground Injection Control Program of the Safe Drinking Water Act (SDWA) as it had previously intended. The Non-numerical human health and environmental standard being proposed, the "Ground Water Protection Standard", is based on the premise that decisions on the use of groundwater as a source of present or future drinking water will be made on a much narrower basis than the broad, numerically based, definition of an "underground source of drinking water".

The basic decision of the Agency to resolve the problems of which criteria and standards apply when a facility, subject to both the RCRA and the SDWA, is to be permitted is that both apply. The Authority section of the preamble therefore cites both Acts with respect to "well injection", and the Part 264 standards and criteria apply to all hazardous waste "well injection". This should be understood to be an administrative resolution of the problem which reduces the issues to those of exclusive jurisdiction.

At both the federal and the state levels of government, the management and protection of ground water is not exclusively associated with either broad health and environmental effects or with the use of ground water for drinking water. As EPA has been, state agencies are often also charged by their own legislative bodies to consolidate resources in the management of any resource. Part of the intent of the decision referenced above is to allow management flexibility in charging individuals to be responsible

for either the RCRA or the SDWA programs, or both. The scope of the exclusive jurisdiction is discussed below with reference to the RCRA permit by rule in §122.26.

D. Regulatory Language

In §264.1, paragraph (d) is revised to read as follows:

§264.1 Purpose, scope and applicability.

* * * * *

(d) The requirements of this Part apply to a person disposing of hazardous waste by means of underground injection subject to a permit issued under an Underground Injection Control (UIC) program approved or promulgated under the Safe Drinking Water Act and a permit by rule under §122.26(b) of this chapter only to the extent they are required by §122.45 of this Chapter. These Part 264 regulations do apply to the aboveground treatment or storage of hazardous waste before it is injected underground.

* * * * *

2. Permits by rule - §122.26

A. Proposed Regulations and Rationale

See the final regulation - §122.26(b) at 45 FR 33435

B. Summary of Comments

See the Summary of Comments under Section 1.

C. Discussion

As mentioned in Section 1., the scope of the permit by rule to allow RCRA jurisdiction over certain types of facilities to be exclusively administered under the UIC program has been proposed for amendment. A basic problem became evident upon analysis by the Agency of the decision not to implement the total UIC ban

of Class IV wells. Class IV wells are those which "inject" hazardous waste above an "underground source of drinking water" (USDW). Included among Class IV wells are a number types of facilities that are "wells" because of the UIC definition (i.e., deeper than wide) rather than because they would commonly be referred to as wells. Many of those types of facilities are among those subject to "Subpart S - Seepage Facilities" of the proposed rule. It should be noted that the Class IV ban of wells that inject directly into a USDW is being continued, and must be considered a limitation on RCRA jurisdiciton to permit such facilities. The justification for continuing this "interim ban", discussed at 45 FR 42485 in the preamble to the final UIC regulations, is covered in the UIC Statement of Basis and Purpose dated May, 1980.

The basic problem that resulted in the proposed amendment to §122.26(b) is that the scope of authority to permit or deny applications for permits under the RCRA and the SDWA are not equivalent. In the proposed rule that problem is being resolved by promulgating criteria and standards for "injection wells" under both the RCRA and the SDWA. In this way the RCRA standard will apply equally to either program and, at least within the Agency, exclusive jurisdiciton will not be a primary issue. The allocation of staff resources with appropriate talents to review permit applications for hazardous waste land disposal facilities can be managed as appropriate to the Agency's goals.

The permit by rule allows UIC exclusive jurisdiction in those circumstances when it is clear that the RCRA standard will be complied with. Those circumstances exist only when no waste will

enter a surficial aquifer and no water will be withdrawn for use from the zone of containment within the injection zone. In all other circumstances, the RCRA criteria and standards will apply directly since the UIC criteria and standards are either not equivalent or have been reserved.

The term "zone of containment" is a RCRA term of art defined in the proposed amendments to Part 260 at 46 FR 11171. The use of that defined term in §122.26(b) will require that a permit applicant define the zone of containment of the injection in accordance with the requirements of §122.25(d) in order to qualify for the RCRA permit by rule. In the UIC program, the requirement for review is limited to the "area of review" which is defined in §146.07 as a fixed radius around the well or the calculated area where "pressures in the injection zone may cause the migration of the injection and/or formation fluid into an underground source of drinking water". This UIC requirement ignores the potential for migration of the injected waste in the absence of injection pressure and, although it may approximate the expected physical response of the natural systems to deepwell injection under pressure, it cannot be relied upon to describe the area of concern when the injection will occur into a formation (aquifer) in which the groundwater is moving.

In a similar manner, the language of the permit by rule requires a permit applicant to show that the confining zone beneath which he proposes to inject hazardous waste will not allow movement of fluid into a surficial aquifer where the human health and environmental effects of concern are not limited to those which would accrue from the withdrawal and use of affected groundwater.

D. Regulatory Language

In §122.26, paragraph (b) is revised to read as follows:

§122.26 Permits by rule.

* * * * *

(b) Injection wells. The owner or operator of an injection well disposing of hazardous waste beneath a surficial aquifer and beneath a confining zone that does not allow movement of fluid into a surficial aquifer if the owner or operator:

(1) Has a permit for underground injection issued under Part 122, Subpart C or Part 123, Subpart C; and

(2) Complies with the conditions of that permit and the requirements of §122.45 (requirements for wells managing hazardous waste); and

(3) Providing that no ground water is being or will in the future be withdrawn from the zone of containment.

3. Applicability (Underground Injection) - §264.430

A. Proposed Regulations and Rationale

See the Discussion in Section 1.

B. Summary of Comments

See the Discussion in Section 1.

C. Discussion

As expressed in the preamble to the regulation at 46 FR 11149, the requirements of Subpart R are applicable to all "deepwell" injections (through the uppermost aquifer) of hazardous wastes. "Wells" which discharge into or above a surficial aquifer are subject to the requirements of Subpart S (See Section 8. and the Discussion in Section 1.)

D. Regulatory Language

The regulations of this Subpart apply to owners and operators of facilities which dispose of hazardous waste by means of an injection well which discharges below the surficial aquifer, except as §264.1 provides otherwise.

4. General design and installation requirements - §264.431

A. Proposed Regulations and Rationale

See the Preamble to the Part 146 regulations at 45 FR 42481.

B. Summary of Comments

See the Preamble to the Part 146 regulations at 45 FR 42481.

C. Discussion

There are six "pathways of contamination" references in the Statement of Basis and Purpose dated may 1980 for the Underground Injection Control program as follows:

° migration of fluids through a faulty injection well casing;

° migration of fluids through the annulus located between the casing and well bore;

° migration of fluids from an injection zone through the confining strata;

° vertical migration of fluids through improperly abandoned and improperly completed wells;

° lateral migration of fluids from within an injection zone into a protected portion of that stratum; and

° direct injection of fluids into or above an underground source of drinking water.

If a well casing is defective, injected fluids may leak through it. Such migration can contaminate the adjacent groundwater.

Similarly, resistance by the receiving stratum to the entry of injected fluids may be greater than annular resistance and the fluids may travel alongside the casing in the drilling cavity and contaminate a "protected" stratum. For further discussion see Chapter 7 of the Report to Congress (1).

Casing and cementing requirements established in Part 146 are effective in preventing the first two pathways from transmitting contaminants. Review of geologic considerations in the injection zone is necessary in preventing transmission through confining strata or improperly abandoned or completed wells.

These regulations adopt the technical requirements and specifications promulgated in Part 146 for Class I wells as the applicable requirements for satisfying the requirements of §264.431. Reference should be made to the Statement of Basis and Purpose for Part 146 for more specific discussion of the requirements.

D. Regulatory Language

An underground injection well which discharges hazardous waste below the surficial aquifer must be designed and installed to prevent the migration of hazardous waste and decomposition or reaction byproducts from the well casing and from the zone of containment. An injection well designed and installed in accordance with the technical requirements and specifications included in §146.12(b),(c),(d) and (e) of this chapter will be considered as satisfying the requirements of §264.431.

5. General operating requirments - §264.432

A. Proposed Regulations and Rationale

See the Preamble to the Part 146 regulations at 45 FR 42481.

B. Summary of Comments

See the Preamble to the Part 146 regulations at 45 FR 42481.

C. Discussion

The requirements of §264.432 can also be met by complying with appropiate requirements in Part 146. The operational requirements of Part 146 also serve to minimize migration of fluids through a casing. Foremost among these are the requirements to demonstrate mechanical integrity. A mechanical integrity test is used to verify, as its name indicates, the "integrity" of a well, i.e., whether there is an absence of significant leaks. The reader should refer to "Mechanical Integrity Testing of Injection Wells", Geraghty and Miller, Inc., April 30, 1980 for discussion of the specific methodology (2).

Control of injection pressure below the known limits of capability of confining strata is also necessary to comply with the operating performance requirement.

D. Regulatory Language

The owner or operator of an underground injection well which discharges hazardous waste below the surficial aquifer must prevent the migration of hazardous waste and decomposition or reaction byproducts from the well casing and from the zone of containment. An injection well operated in accordance with the technical requirements and specifications included in §146.13(a) of this chapter will be considered as satisfying the requirements of §264.432.

6. Monitoring and response - §264.433

A. Proposed Regulations and Rationale

See the proposed Part 265 regulations at 45 FR 33284

B. Summary of Comments

No significant comments were received on the proposed Part 265 requirements.

C. Discussion

Since these requirements are virtually unchanged from those which were proposed for Part 265 on 19 May 1980, the rationale need not be repeated here. See the Preamble to the proposed regulations at 45 FR 33282.

D. Regulatory Language

The owner or operator of an underground injection well which discharges hazardous waste below the surficial aquifer must:

(a) Develop a plan for a monitoring program capable of determining compliance with §264.432 and the facility permit by:

(1) Demonstrating the mechanical integrity of the injection well; and

(2) Demonstrating that the pressure of the injected fluids remains within allowable limits.

(b) Specify in the plan required under paragraph (a) of this section:

(1) For demonstrating mechanical integrity:

(i) The annular pressure range to be maintained and basis for determining it for the specific well tubing, packer and casing characteristics and for the anticipated injection fluid temperature;

(ii) The devices and procedures for continuous monitoring and recording of the annular pressure, and evaluation of that information; and

(iii) Procedures for immediate response to changes in the annular pressure outside the allowable range, and for restoration of mechanical integrity;

(2) For demonstrating that injection fluid pressure remains within allowable limits:

(i) The calculated fracture pressure and the basis for determining it for the specific formation and zone of containment.

(ii) The calculated allowable injection pressure to be measured at the well head and the basis for determining it for specific injection fluid characteristics (i.e., specific gravity, viscosity and temperature);

(iii) The techniques and procedures for continuous monitoring and recording of the injection pressure at the well head, and for evaluation of that information; and

(iv) Procedures for immediate response to an increase in the well head pressure above the allowable limit, to restore pressure to within allowable limits.

(c) Implement the monitoring plan which satisfies paragraph (b) of this section and determine the mechanical integrity of the well and the injection zone pressure.

(d) Keep records of the monitoring data and evaluations specified in paragraph (b)(1) and (2) of this section throughout the active life of the facility.

(e) Submit an annual report to the Regional Administrator in which compliance with §264.432 is assured; and separately identify in the annual report those corrective actions, specified in paragraphs (b)(1)(iii) and (b)(2)(iv) of this section which were

implemented during the reporting period; and provide an explanation of circumstances which required corrective action.

7. Closure and post-closure - §264.434

A. Proposed Regulations and Rationale

See the Preamble to §122.45 at 45 FR 33335

B. Summary of Comments

See the Preamble to §122.45 at 45 FR 33335

C. Discussion

In the Preamble to §122.45 at 45 FR 33335, the Agency set forth it reasoning for reduced post-closure requirements for well used to inject hazardous waste fluids into deep aquifers. That reasoning is applicable to injection wells subject to Subpart R. Therefore, the requirements for closure and post-closure are minimal. The physical precautions of Part 146 for plugging will suffice for this requirements of §264.434. The Statement of Basis and Purpose for Part 146 should be consulted for background purposes.

D. Regulatory Language

(a) The owner or operator of an underground injection well which discharges hazardous waste below the surficial aquifers must close his facility in a manner that prevents future use of the well and minimizes threats to public safety.

(b) The owner or operator of an underground injection well which discharges hazardous waste below the surficial aquifer must close by plugging the well with cement. Plugging in accordance with the technical requirements included in §146.10(b) of this chapter will be considered as satisfying this requirement.

(c) The owner or operator of an underground injection well which discharges hazardous waste below the surficial aquifer is excluded from the requirements of §§264.117 - 264.118 and §§264.144 - 264.145 of this Part.

8. Applicability (Underground Seepage) - §264.460

A. Proposed Regulations and Rationale

See the discussion in the Introduction and the Need for Regulation sections of this document; and the discussions in Section 1. - Purpose, scope, and applicability and in Section 2. - Permits by rule.

B. Summary of Comments

See the Summary of Comments under Section 1. of this document, Background Document No. 1 - Surface Impoundments (of this series), and the background document "Subpart K - General Standards for Surface Impoundments Used for Treatment and Storage" dated 29 December 1980.

C. Discussion

These standards apply to seepage facilities which are defined in the proposed amendments to Part 260 as "any land disposal facility which is used to emplace liquids into the land or the ground water which is not a cased injection well, a landfill, a surface impoundment, or a land treatment facility".

As discussed in the introduction and reflected in the definition quoted above, the fundamental difference between surface impoundments and certain types of seepage facilities is the objective of the design of the facility. Seepage facilities are designed with the objective of emplacing liquids into the land, whereas surface

are designed to contain liquids. Surface impoundments may leak liquids, but the normal design objective is contol or limit leakage at least to the extent that the facility does impound (i.e., contain) free liquids creating a relatively stable free liquid surface.

Four types of seepage facilities are described in the preamble discussion of "Types of facilities - §264.19(b)" at 46 FR 11136-38. The four types described are seepage lagoons, drying beds, seepage pits, and seepage beds. As noted in the preamble to Subpart S at 46 FR 11149, "any injection well that is not cased to prevent discharge into the surficial aquifer is also a seepage facility". Of the four types described, seepage lagoons and drying beds are similar in construction and design (except with respect to the design objectives discussed above) to surface impoundments.

The technical requirements of Subpart S which have been proposed effectively establish that the technical requirements of Subpart K which are appropiate for application to those types of seepage facilities that are similar in construction and design to surface impoundments (i.e., seepage lagoons and drying beds) do apply. The Agency was not prepared to propose parallel technical requirement for seepage pits, seepage beds, (both of these types of facilities are commonly constructed below the elevation of the adjacent ground surface and covered) and injection wells which are not cased to prevent discharge into the surficial aquifer at the time the proposed requlations were promulgated. The Agency is considering what technical requirements should be promulgated for those types of facilities under both Part 264 and Part 265 (See the preamble to the proposed Part 265 requirements for Subpart R at 45 FR 33281).

D. Regulatory Language

The regulations in this Subpart apply to owners and operators of seepage facilities used to treat, store, or dispose of hazardous waste, except as §264.1 provides otherwise.

9. General design requirements - §264.461

A. Proposed Regulations and Rationale

See the 29 December 1980 Background Document; General design requirements - §264.221.

B. Summary of Comments

See the 29 December 1980 Background Document; General design requirements - §264.221.

C. Discussion

The design of a seepage lagoon or drying bed is essentially the same as a surface impoundment in the 5 February 1981 reproposed regulations. Although ground water concerns may differ, design of the facility with regard to dikes, freeboard, overtopping and surface water protection in general remains the same. The rationale regarding these requirements may be found in the background documents for the regulations referred to. (See Background Document No. 1 - Surface Impoundments of this series; General Design Requirements - §264.221; the background docment "Subpart K - General Standard for Surface Impoundments Used for Treatment and Storage" dated 29 December 1980; and the background document "Subpart K - Final Interim Status Standards for Surface Impoundments" dated 28 April 1980.) of Solid Waste, April 28, 1980. In the following sections, abreviated reference will be made to these as appropiate rather than creating redundant discussion in this document.)

D. Regulatory Language

(a) Seepage lagoons and drying beds must be designed to comply with the requirements of §264.221, Subpart K.

10. General operating requirements - §264.462

A. Proposed Regulations and Rationale

See the 29 December 1980 Background Document; General Operating Requirements - §264.222.

B. Summary of Comments

See the 29 December 1980 Background Document; General Operating Requirements - §264.222.

C. Discussion

See the 29 December 1980 Background Document; General Operating Requirements - §264.222.

D. Regulatory Language

Seepage lagoons and drying beds must be operated and maintained to comply with the requirements of §264.222, Subpart K.

11. Containment system - §264.463

A. Proposed Regulations and Rationale

See the 29 December 1980 Background Document; Containment systems - 264.223; ISSUE: Earthen dikes.

B. Summary of Comments

See the 29 December 1980 Background Document; Containment systems - 264.223; ISSUE: Earthen dikes.

C. Discussion

Seepage facilities are specifically designed to allow seepage of liquids, therefore, liner requirements are not specified in this regulation. Waste must, however, be contained within any

dikes which are utilized to prevent spills, surface water contamination and uncontrolled (i.e., not permited) discharges to groundwater. The containment system regulation is, therefore, effectively limited to insuring that dikes are adequately constructed and maintained. See the 29 December 1980 Background Document - ISSUE: Earthen dikes

D. Regulatory Language

(a) All earthen dikes must have a protective cover, such as grass, shale, or rock, or be constructed of materials which are sufficiently resistant to wind and water erosion to preserve the structural integrity of the dike.

12. Diversion Structures - §264.464

A. Proposed Regulations and Rationale

See the 29 December 1980 Background Document; General Operating Requirements - §264.222; ISSUE: Dike maintenance and diverson of run-on.

B. Summary of Comments

See the 29 December 1980 Background Document; General Operating Requirements - §264.222; ISSUE: Dike maintenance and diverson of run-on.

C. Discussion

Seepage lagoons and drying beds are designed to contain waste for seepage within a defined area generally enclosed by dikes. Where run-on is allowed to occur, overflow of seepage facility dikes is likely to occur with subsequent surface water, and possibly ground water degradation. The regulation, therefore, specifically calls for run-on diversion for seepage lagoons and drying beds.

D. Regulatory Language

(a) Run-on must be diverted away from a seepage lagoon or a drying bed.

13. Inspections and testing - §264.465

A. Proposed Regulations and Rationale

See the 29 December 1980 Background Document; Inspection and Testing - §264.226.

B. Summary of Comments

See the 29 December 1980 Background Document; Inspection and Testing - §264.226.

C. Discussion

See the 29 December 1980 Background Document; Inspection and Testing - §264.226.

D. Regulatory Language

(a) The owner or operator of a seepage lagoon or a drying bed must comply with the inspection requirements of §264.226, Subpart K.

14. Contingency plans - §264.467

A. Proposed Regulations and Rationale

See the 29 December 1980 Background Document; Containment system repairs: Contingency plans - §264.227.

B. Summary of Comments

See the 29 December 1980 Background Document; Containment system repairs: Contingency plans - §264.227.

C. Discussion

The failure of a seepage facility dike may result in identical damage to health and the environment as a surface impoundment dike failure; therefore, the contingency plan requirments which are

applicable to surface impoundment dikes apply to seepage facilities with dikes. See the 29 December 1980 Background Document; Containment system repairs: Contingency plans - §264.227.

D. Regulatory Language

Seepage facilities with dikes must comply with the requirements of §264.227, Subpart K, applicable to dikes.

15. Closure and post closure - §264.468

A. Proposed Regulations and Rationale

See the 29 December 1980 Background Document; Closure - §264.228.

B. Summary of Comments

See Background Document No. 1 - Surface Impoundments of this series; Closure and post-closure - §264.228.

C. Discussion

See Background Document No. 1 - Surface Impoundments of this series; Closure and post-closure - §264.228.

D. Regulatory Language

Unless otherwise authorized in the permit for the facility, at closure, all hazardous waste and hazardous waste residues must be removed from a seepage facility and managed as a hazardous waste in accordance with all applicable requirements of Parts 262 - 266 of this Chapter. Any component of the containment system or any appurtenant structures or equipment (e.g., discharge platforms and pipes, and baffles, skimmers, aerators, or other equipment) containing or contaminated with hazardous waste or hazardous waste residues must be decontaminated; or removed and also managed as a hazardous waste.

16. Special requirements for ignitable or reactive waste - §264.469

A. Proposed Regulations and Rationale

See the 29 December 1980 Background Document; Special Requirements for ignitable or reactive wastes - §264.229.

B. Summary of Comments

See the 29 December 1980 Background Document; Special Requirements for ignitable or reactive wastes - §264.229.

C. Discussion

The requirements of this section are equivalent to those promulgated for surface impoundments. See the 29 December 1980 Background Document; Special Requirements for ignitable or reactive wastes - §264.229. The requirements apply to all seepage facilities rather than just seepage lagoons and drying beds. The comment to the existing language of the requirement for surface impoundments has not been included at the request of the Federal Register staff.

D. Regulatory Language

Ignitable or reactive waste must not be placed in a seepage facility, unless:

(a) The waste is treated, rendered, or mixed before or immediately after placement in the facility so that:

(1) The resulting waste, mixture, or dissolution of material no longer meets the definiton of ignitable or reactive waste under §§261.21 or 261.23 of this Chapter; and

(2) §264.17(b) is complied with; or

(b) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react; or

(c) The seepage facility is used solely for emergencies.

17. Special requirements for incompatible wastes - §264.470

A. Proposed Regulations and Rationale

See the 29 December 1980 Background Document; Special requirements for incompatible wastes - §264.230.

B. Summary of Comments

See the 29 December 1980 Background Document; Special requirements for incompatible wastes - §264.230.

C. Discussion

The requirements of this section are also equivalent to those promulgated for surface impoundments. See the 29 December 1980 Background Document; Special requirements for incompatible wastes - §264.230. These requirements also apply to all seepage facilities rather than just seepage lagoons and drying beds. The comment to the existing language of the requirement for surface impoundments has not been included at the request of the Federal Register staff.

D. Regulatory Language

Incompatible wastes, or incompatible wastes and materials (see Appendix V for examples) must not be placed in the same seepage facility, unless §264.17(b) is complied with.

III REFERENCES

1. U.S. Environmental Protection Agency, The Report to Congress; Waste Disposal Practices and their Effects on Ground Water; January 1977.

2. U.S. Environmental Protection Agency, Mechnical Integrity Testing of Injection Wells; by Geraghty and Miller, Inc., April 30, 1980.